IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF VIRGINIA
ROANOKE DIVISION

ROBERT ANDREW BODEN, Plaintiff,	)	
	)	**Case No. 7:18-cv-00256**
v.	)	
UNITED STATES OF AMERICA, Defendant	)	**By: Michael F. Urbanski** **Chief United States District Judge**

MEMORANDUM OPINION

Plaintiff Robert Andrew Boden sues the United States in a negligence action pursuant to the Federal Tort Claims Act ("FTCA"), 28 U.S.C. § 2674. In broad terms, Boden alleges that defendant the United States of America, through its employee, John Bonk, DPM, breached the duty of care owed to Boden when he misdiagnosed and failed to properly treat a long-standing ankle impairment, ultimately resulting in the amputation of Boden's lower right leg. The court held a bench trial on September 7 – 10, 2021, and October 6, 2021. Based on the stipulations and evidence presented, the court sets forth its findings of fact and conclusions of law below. Because the court finds that Dr. Bonk was not negligent, the court will enter judgment in favor of the United States.

I. Standard of Review

Rule 52(a)(1) of the Federal Rules of Civil Procedure requires that the court make specific findings of fact and state conclusions of law separately in any action tried without a jury. The trial judge must appraise the testimony and demeanor of witnesses, as well as weigh the evidence and choose, among conflicting inferences and conclusions, those that seem most reasonable. See Burgess v. Farrell Lines, Inc., 335 F.2d 885, 889–90 (4th Cir. 1964). In this

regard, the trial court is in a unique position to evaluate the credibility of witnesses and weigh the evidence accordingly. See Johnson v. SmithKline Beecham Corp., 724 F.3d 337, 345 (3d Cir. 2013) (citing Inwood Labs., Inc. v. Ives Labs, Inc., 456 U.S. 844, 855 (1982)). The trial judge has the inherent right to disregard testimony of any witness when satisfied that the witness is not telling the truth or the testimony is inherently improbable due to inaccuracy, uncertainty, interest, or bias. Id. (citation and internal quotation marks omitted); see Columbus-Am. Discovery Grp. v. Atl. Mut. Ins. Co., 56 F.3d 556, 567 (4th Cir. 1995) (internal quotation omitted) (stating that the factfinder is in a better position to make judgments about the reliability of some forms of evidence, including evaluation of the credibility of witnesses).

A trial court must do more than announce statements of ultimate fact, United States ex rel. Belcon, Inc. v. Sherman Constr. Co., 800 F.2d 1321, 1324 (4th Cir. 1986), but is not required "to make findings on all facts presented or to make detailed evidentiary findings. . . . The ultimate test as to the adequacy of the findings will always be whether they are sufficiently comprehensive and pertinent to the issues to provide a basis for decision and whether they are supported by the evidence." Darter v. Greenville Cmty. Hotel Corp., 301 F.2d 70, 75 (4th Cir. 1962).

II. Background

Boden has a long, documented medical history of right ankle pain and instability following an injury some thirty years ago. To provide context to the issues in this case, the court sets forth the uncontested history of Boden's ankle injury. Around 1990 or 1991, Boden, while serving in the United States Army, jumped from a tank and rolled his right ankle during a training exercise. Boden Trial Test., ECF No. 152 at 7, 67. Boden reinjured his ankle while

playing football in the Army. Id. at 67. Around 1996, Boden's ankle became increasingly unstable, and the following year, Boden left the Army. Id. at 68-69. Upon his departure from the Army, Boden applied for, and received, disability benefits from the United States Department of Veterans Affairs (VA) for his ankle injury, with a disability rating of ten percent. Id. at 70. Even though Boden reported to medical providers at the Salem Veterans Affairs Medical Center ("VAMC") that his ankle would occasionally give out between 1997 and 2005, Boden did not seek any treatment concerning his ankle during this period. Id. at 81.

In 2006, Boden attempted to increase his VA disability rating. Id. at 71. At a primary care appointment on May 4, 2006, Boden indicated that he had fallen in the last month because of "ankle problems." Progress Notes, ECF No. 80 at 1. On May 12, 2006, at his compensation and pension exam, it was noted that Boden's ankle "continues to give way under him without warning causing him to fall and he reports he is prone to repeated sprains of the right ankle." Id. at 3. At that time, a VA radiologist stated that because Boden's foot was rotated, it was "somewhat difficult to evaluate." Id. at 7.

At visits to the VAMC on October 18, 2007 and November 16, 2007, Boden complained of back and leg pain, which he attributed to his injured ankle. Id. at 10, 12. In 2007 Boden received a brace for his ankle, see id. at 16, and the VA increased his disability rating to twenty percent. Boden Trial Test., ECF No. 152 at 76-77, 79. On January 2, 2008, Boden had another compensation and pension exam. He reported that his "ankle 'gives out more frequently and [the] pain is worse' with and without [the ankle] brace" and that he is only able to "stand for 15-30 minutes" and "walk more than a few yards but less than [one fourth of a] mile." It was noted that Boden's ankle showed signs of deformity. Progress Notes, ECF No.

80 at 16-17. On May 7, 2008, Boden was referred to the pain clinic because of his antalgic gait, increased right ankle pain, and inability to perform various household tasks. On May 12, 2008, Boden began physical therapy for his chronic back and ankle pain. Id. at 30-32, 34-35.

In January 2010, Boden slipped on a wet floor and injured his right knee, and on February 19, 2010, he went to the Salem VAMC emergency room for right ankle pain, where he was diagnosed with a right ankle sprain and told to rest, ice, compress, and elevate his leg. Id. at 37-39. Additionally, the Salem VAMC emergency room told Boden to follow up with the orthopedic clinic. Id. On February 24, 2010, Boden saw Dr. James McLeod in the VAMC Orthopedic Clinic, and Dr. McLeod confirmed the emergency room's diagnosis of a sprained right ankle and ordered an ankle brace and physical therapy. Id. at 41. In a follow-up appointment on April 26, 2010, Boden again was ordered physical therapy for his right ankle pain, id. at 42-46, and he began physical therapy in April 2010. He attended two out of six scheduled appointments. Cox Rehabilitation Ctr. notes, ECF No. 80-3.

On February 25, 2013, Boden complained of right ankle and knee pain, and Boden's primary care physician referred him back to the VAMC Orthopedic Clinic. Progress Notes, ECF No. 80 at 47-55. On May 23, 2013, Boden complained to Dr. McLeod of pain and tenderness in his right ankle. Dr. McLeod diagnosed Boden with chronic right ankle instability and ordered more physical therapy and another brace. Id. at 56. In October 2013, Boden started another course of physical therapy. Duncan Physical Therapy notes, ECF No. 80-4.

In 2014, Boden stated that his years of "therapy helped little, if any, nor did his brace." Dr. McLeod diagnosed him with instability of the right ankle with early osteoarthritis, and prescribed injections of Marcaine and Kenalog. Progress Notes, ECF No. 80 at 62. Dr.

McLeod referred Boden to Dr. Justine Crowley in the Orthopedic Clinic for "consideration [of] lateral ankle reconstruction." Id. On March 19, 2014, Dr. Crowley summarized Boden's ankle history and reported his complaints that his ankle gave out at least once or twice a week causing him to fall and land on his knee, that all the pain in his ankle was lateral, that his ankle ached and swelled, more so with increased activity, and that he slept with a pillow between his knees because of the pain. He said he had worn different braces and had a lace-up brace that helped prevent the rolling of his ankle, but he did not wear a brace to the appointment. Id. at 68. Boden again was diagnosed with chronic right ankle instability and given another brace. Id. at 70. On April 21, 2014, Dr. Crowley referred Boden to the Podiatry Clinic for possible lateral ankle stabilization surgery. Id. at 76-77. The care that Boden received at the Podiatry Clinic forms the basis of his complaints in this lawsuit.

III. Testimony and Evidence

The court summarizes here the most important testimony from most of the witnesses and discusses exhibits and stipulations of the parties in context as appropriate, regardless of whether an exhibit was introduced through a particular witness. The court does not include all the testimony from trial and omits unimportant or tangential testimony. Moreover, the court does not discuss any evidence relevant to the issue of plaintiff's damages because it finds that plaintiff has not established that Dr. Bonk was negligent in his treatment of Boden. Thus, it is not necessary to reach the issue of damages.

A. Annaliese Lembach, DPM

The Podiatry Clinic employed three podiatrists, including defendant Dr. John Bonk and Dr. Annaliese Lembach. On April 23, 2014, Boden saw Dr. Lembach at the Podiatry

Clinic, and she noted that Boden presented in a seated position with his right foot splinted in the varus position. She could not assess his muscle strength or range of motion because he was guarding. He had pain to palpation with light touch over the sinus tarsi, lateral ankle ligaments, peroneal tendons and the anterior lateral ankle joint on the right. He had no pain on palpation of the medial ankle ligaments or posterior tibial tendon.

Dr. Lembach further noted that Boden reported pain as an 8 or 9 on a scale of 1 to 10 and he walked with an antalgic gait. She reviewed imaging, noting that an X-ray showed "stable findings as previously described. Question of ligamentous laxity." Progress Notes, ECF No. 80 at 78-79. An MRI showed "intermediate grade tendinosis and mild tenosynovitis involving the peroneus longus/brevis at the level of the lateral malleolus. Mild muscle strain lateral ankle involving extensor hallucis and digitorum longus. Mild sprain imaged distal soleus muscle." Id. at 80. The MRI also showed "Grade II chondromalacia lateral apex mid taler dome on chronic basis." Id.

Dr. Lembach noted that she wanted to discuss the imaging studies with radiology because there "seems to be a discrepancy between the 2 studies." Id. She explained at her deposition that the X-ray showed ligamentous laxity, but the MRI was not specific about the pathology of the ligaments. The MRI also raised questions because Boden's areas of tenderness on exam indicated that he had a problem in his peroneal tendons and the lateral ankle ligaments and that the "structures were not functioning normally anymore." Although Dr. Lembach thought she spoke to someone about the imaging studies, she did not recall what was said or whether it cleared up her question. Annaliese Lembach Dep., ECF No. 58-2 at 17-

20.[1] Dr. Lembach scheduled Boden to return the next day to "discuss surgical plan in more detail." Progress Notes, ECF No. 80 at 80.

At the follow up appointment, Dr. Lembach repeated Boden's subjective complaints, adding, "Admits to foot slapping to the ground when he walks." Id. at 81. Dr. Lembach performed a common peroneal nerve injection—or nerve block—noting that before the injection, Boden had right pain to palpation with light touch over his sinus tarsi, lateral ankle ligaments, peroneal tendons and anterior lateral ankle joint, right. He also had a negative anterior drawer test, indicating no deficiency in the anterior talofibular ligament. He had no pain on palpation of medial ankle ligaments or posterior tibial tendon. After the nerve block, Boden had a full range of motion at his ankle and subtaler joint on the right side, although he was unable to actively dorsiflex or evert foot without resistance. The inability to actively dorsiflex the foot or evert the foot without resistance indicated pathology of the peroneal tendons. He had full muscle strength for plantar flexors and invertors on the right side. Progress Notes, ECF No. 80 at 81; Lembach Dep., ECF No. 58-2 at 35-38.

Based on her examination of Boden's ankle, his ankle positioning, and his complaint of his right foot dropping to the ground when he walked, Dr. Lembach was concerned that there was a neurological component to Boden's ankle pain. Lembach Dep., ECF No. 58-2 at 34-35, 45. However, her diagnosis was tentative as his condition had not been fully worked up at that point. She ordered an electromyography and nerve conduction velocity ("EMG/NCV") test to rule out any potential neuromuscular problems that might have been

[1] Dr. Lembach testified that she had no independent memory of either office visit she had with Boden but relied on her examination records to answer questions at her deposition. Lembach Dep., ECF No. 58-2 at 9-11.

the source of Boden's pain. Progress Notes, ECF No. 80 at 82. Prior to the completion of the EMG/NCV study, Dr. Lembach left the Salem VAMC and ceased treating Boden. Dr. Lembach did not recommend surgery to Boden prior to leaving the VA. Lembach Dep., ECF No. 58-2 at 45-46. Dr. Bonk then assumed care of Boden.

Dr. Lembach testified that she talked to Dr. Bonk about Boden's case, because she knew that she was leaving the VAMC facility. Id. at 26. Dr. Bonk was the only person doing the type of surgery that Boden potentially would need, "therefore the case was discussed with Dr. Bonk." Id. at 27. She believed the conversation occurred before she left the VAMC in mid-May 2014, but she did not recall any of the details of the discussion she had with Dr. Bonk. Id. at 27-28. Dr. Lembach's treatment notes do not indicate that Dr. Bonk was present when she examined Boden on April 24, 2014.

B. John Bonk, DPM

Dr. Bonk is certified in foot and ankle surgery by the American Board of Foot and Ankle Surgery, has been a practicing surgeon for thirty-four years, and has performed several thousand surgeries. He had worked as a podiatric surgeon at the VAMC for fourteen years and was chief of the podiatry section. He oversaw three attending podiatrists and three residents. Bonk Trial Test., ECF No. 139 at 8-10.

Dr. Bonk testified that because of his student-mentor relationship with Dr. Lembach, she called him into Boden's exam room in order to help her diagnose him.

Q: When do you remember first meeting Mr. Boden?

A: April 24, 2014.

Q: How do you – how do you know that's the date that you met him?

A: Because he was in Dr. Lembach's clinic to be seen as a patient. He had been referred to podiatry section from orthopedics, and she called me in to help her discuss diagnosis and treatment with the patient.

. . .

A: He had suffered with pain and deformity for 20 years and the orthopedic section referred him into podiatry.

Q: What do you remember about that April 24 encounter that you had with Mr. Boden?

. . .

A: I vividly remember being called into Room 3J 124, which was Dr. Lembach's examination room. She had asked me to consult and speak with the patient.

Q: What do you remember happening in that appointment?

A: Well, I remember it so vividly because he had a deformity that, in 34 years of practice, I've only seen one other case that looked like it. It was – he had this inverted deformity of his foot, and I assisted her in her examination.

Q: Walk us through what you did.

A: I went in and introduced myself to both Mr. Boden and Mrs. Boden who was in the room at the time. During that time I asked for a history, and that's when I found out about the injuries and the previous treatment modalities that he had had. I laid my – actually laid my hands on his foot and ankle and performed a range of motion examination and anterior drawer sign.

Q: What did your examination of Mr. Boden reveal?

A: That his right foot had been splinted in varus, or inverted, position causing him a great deal of pain and discomfort.

Id. at 11-13, 70-71.

However, as mentioned, Dr. Lembach's notes do not mention Dr. Bonk's presence or participation in any physical exam of Boden and Dr. Bonk made no notes of his examination. Nor did he note that he had reviewed images of Boden's ankle, any test results, or any notes by previous providers. Bonk Trial Test., ECF No. 139 at 72-74. In addition, Boden testified that Dr. Bonk was not present during this exam with Dr. Lembach. Boden Trial Test., ECF No. 152 at 18. Although Dr. Bonk avers that he vividly remembers being present during this exam, his trial testimony was the first mention of his presence at the April 24, 2014 appointment. No supplemental disclosures or addendums to interrogatories were submitted, and no evidence was adduced at trial to support Dr. Bonk's testimony. At trial Dr. Bonk said that he did not "have a good answer for" and could not recall why his notes lack any mention of his attendance at Boden's April 24, 2014 appointment or the physical examination he said he performed at the appointment. Bonk Trial Test., ECF No. 139 at 68. In addition, Dr. Bonk admitted that he did not perform any physical exam during his June 10, 2014 meeting with Boden, although he said he did not do so because he "had done so previously." Bonk Trial Test., ECF No. 139 at 68.

In any event, on May 21, 2014, the results of the EMG/NCV test came back as normal, ruling out Dr. Lembach's theory that common peroneal nerve dysfunction was causing Boden's deformity. Progress Notes, ECF No. 80 at 88; Bonk Trial Test., ECF No. 139 at 21. On June 10, 2014, Boden met with Dr. Bonk to discuss the results of his EMG/NCV test, and Dr. Bonk informed Boden that based on the test results, he thought his ankle pain stemmed from chronic ankle instability and ligament laxity. Bonk Trial Test., ECF No. 139 at

11, 20-21. Dr. Bonk did not examine Boden's ankle at that appointment. Id. at 68. Nor did he review or order any weight-bearing X-rays or do a talar tilt test. Id. at 87-89.

Dr. Bonk considered four surgical interventions, the first being a "primary repair," where the specific ligaments would be tightened down. Dr. Bonk did not consider Boden to be a good candidate for that surgery because he did not think the repair would be strong enough to hold the deformity. Id. at 22. Dr. Bonk also considered an ankle fusion, which he believed to be too invasive, and a split peroneus brevis lateral ankle stabilization procedure, or SPBLAS. Id. at 23. The SPBLAS procedure involves splitting the peroneus brevis tendon, putting the foot in the corrected position, and rerouting the tendon so that it approximates where the attenuated or nonfunctional ligaments were, and then suturing it back down on itself to act as a sling to hold the foot in the corrected position. Id. at 23-24. Finally, Dr. Bonk considered a tibialis anterior tendon transfer, which involves severing the tendon on the medial, or inside of the ankle, and relocating it so that its strength is on the lateral side of the foot instead of the medial so that it can help evert as opposed to invert the foot. Id. at 24. There is no record of Dr. Bonk having discussed any procedure or alternative treatment but the SPBLAS surgery in the notes of the June 10, 2014 appointment. Id. at 74. Dr. Bonk focused his treatment on correcting Boden's deformity because absent correction, Boden would be at risk of developing foot ulcers, which would increase his odds of requiring an amputation. Id. at 13.

Dr. Bonk recommended the SPBLAS to Boden and they scheduled the surgery. Dr. Bonk believed the SPBLAS surgery would give the ankle the strength and rigidity it needed on the lateral side and also, he was more familiar with the procedure and the results that could be

expected. Id. Dr. Bonk also testified that the SPBLAS surgery can hinder a patient's mobility and requires a "large amount of rehab." Id. at 91. He agreed that by splitting the tendon on the outside of the foot, the SPBLAS surgery can weaken the tendon on the outside of the foot with the potential that the tendon on the inside of the foot can overpower it. Id. at 92-93. He further stated that using the tendon to act as a sling would tighten down and strengthen the outside ligaments and aid in their eversion. Id. at 92-93.

On July 14, 2014, Dr. Bonk performed the SPBLAS procedure, and there were no complications during the surgery. Immediately following the surgery, Boden's foot was in the corrected position. Id. at 25. Boden was ordered to remain non-weight-bearing until told otherwise. Id. at 28; Progress Notes, ECF No. 80 at 130.

At his second post-operative appointment on July 23, 2014, a hematoma was discovered on Boden's right ankle. Progress Notes, ECF No. 80 at 128. While this was a potential side effect of the surgery and no cause for concern, Dr. Bonk decided to remove the hematoma. Bonk Trial Test., ECF No. 139 at 25; Progress Notes, ECF No. 80 at 116-29. During Boden's next follow up appointment on July 30, 2014, Dr. Bonk noted that Boden "would not allow positioning in abduction and dorsiflexion," indicating that his foot was beginning to splint back into the inverted position. Progress Notes, ECF No. 80 at 130; Bonk Trial Test., ECF No. 139 at 27. The most probable reason for that was that the tendon on the inside of the foot was stronger than the tendon on the outside of the foot, and was pulling the foot in. Bonk Trial Test., ECF No. 139 at 94. Boden also complained of pain that seemed out of proportion at this appointment. Mild edema but no redness was noted. Progress Notes, ECF No. 80 at 130; Bonk Trial Test., ECF No. 139 at 26.

Boden again complained of pain out of proportion during his August 27, 2014 appointment. Dr. Bonk noted superficial wound separation with moderate drainage, mild peri-wound redness and edema. Progress Note, ECF No. 80 at 131.

On September 10, 2014 Boden saw Dr. Bonk who noted continued complaints of pain that seemed out of proportion to his post-surgical status. The wound separation was improved with very little drainage, mild peri-wound redness and edema. Dr. Bonk noted that when Boden's foot was out of the cam boot, it still tended to grossly invert and he was worried that Boden was reluctant to evert his foot as had been achieved in surgery. Id. at 132.

Dr. Bonk became concerned that the SPBLAS surgery was unsuccessful and that the deformity was returning. Bonk Trial Test., ECF No. 139 at 29. In September 2014, Boden continued to experience pain that Dr. Bonk found to be out of proportion to the fact that he was ten weeks past surgery. Id. at 30. However, Dr. Bonk was not concerned that this pain was symptomatic of chronic regional pain syndrome (CRPS) because Boden was not showing any other traditional signs and symptoms of CRPS. Id. at 30-31. Notes from Boden's September 24 visit to Dr. Bonk show that the wound separation was significantly improved with very little drainage, and minimal redness and edema. Dr. Bonk told Boden and his wife that Boden would likely need further surgical intervention, "to include tendon transfer or ankle fusion." Progress Notes, ECF No. 80 at 132.

Dr. Bonk pointed out that when they originally had discussed the SPBLAS surgery he had indicated that a soft tissue procedure might fail and that further surgical intervention might be necessary. Bonk Trial Test., ECF No. 139 at 32. Two weeks later, Dr. Bonk remained concerned that the ankle deformity had returned and advised Boden's wife to make sure he

was wearing the CAM boot in the correct position. In addition, he ordered another brace made specifically to a cast of Boden's foot and ankle to hold it in the corrected position. Id. at 32-34. Dr. Bonk also asked Boden to consider the possibility of additional surgery. Id. at 34. Dr. Bonk was frustrated because Boden was still in pain and because the procedure was not working. Id.

Dr. Bonk considered three surgical options: redoing the SPBLAS procedure, the tibialis anterior tendon transfer option, and the ankle fusion option. He ultimately recommended the ankle fusion because one soft-tissue procedure had failed and in his experience, the fusion seemed to be a more definitive way of relieving the deformity. The tendon transfer procedure would have been another soft tissue procedure. Id. at 34-35.

Another podiatrist, Paul Shearer, saw Boden on October 31, 2014, because Dr. Bonk was out of the office. After examining Boden, Dr. Shearer assessed him with a painful right ankle and a high likelihood of CRPS. Dr. Shearer noted that Boden was still having pain and his ankle was becoming rigidly contracted. Progress Notes, ECF No. 80 at 134. Dr. Shearer told Boden to return in one to two weeks to see Dr. Bonk for either a possible surgical consultation or a pain clinic consultation. Progress Notes, ECF No. 80 at 134-36; Bonk Trial Test., ECF No. 139 at 36. Dr. Bonk and Dr. Shearer discussed Boden's case and agreed that there were no physical signs or symptoms of CRPS other than Boden's pain issue. Dr. Shearer told Dr. Bonk that he included the CRPS as a differential diagnosis. Bonk Trial Test., ECF No. 139 at 38-39.

Dr. Bonk did not refer Boden to the pain clinic because he did not believe he had CRPS. Id. at 39. Dr. Bonk agreed that in addition to "pain out of proportion," Boden had

motor changes and edema, which could be signs of CRPS. Dr. Bonk also stated that the motor changes could also be the result of a failed surgical procedure and that edema is a normal post-surgical finding. Id. at 98-99. Dr. Bonk further agreed that in his notes he did not record whether Boden had color changes or temperature changes in his ankle. Id. at 99.[2] Dr. Bonk did not order any tests that could have ruled out CRPS. Id. at 100. Dr. Bonk explained that the pain Boden was describing appeared to be musculoskeletal, rather than lancinating, although he also described numbness and tingling, which could be signs of CRPS. Id. at 101.

At Boden's next appointment with Dr. Bonk on November 12, 2014, Boden reported "unbearable" pain when the ankle was moved. He said he had been wearing the prescribed brace, but it did not help with the pain. Dr. Bonk assessed him with "acquired equinovarus," which was a new finding, and described the position of his foot as having a rigidly inverted and plantar flex contraction. Progress Notes, ECF No. 80 at 166; Bonk Trial Test., ECF No. 139 at 96. Dr. Bonk discussed conservative and surgical treatment options and Boden opted for ankle fusion surgery. Progress Notes, ECF No. 80 at 166; Bonk Trial Test., ECF No. 139 at 42-43. Dr. Bonk believed the ankle fusion surgery had the greatest chance for success, given Boden's 20-year history of pain and deformity. Bonk Trial Test., ECF No. 139 at 44. Dr. Bonk acknowledged that one result of ankle fusion surgery was that by putting a rod up through the heel and into the tibia, the foot loses all mobility. Id. at 104.

Dr. Bonk performed the right ankle fusion with IM rod surgery on December 28, 2014. Progress Notes, ECF No. 80 at 186-93; Bonk Trial Test., ECF No. 139 at 45. During the

[2] Notwithstanding Dr. Bonk's testimony, as noted above, in Boden's post-operative visits Dr. Bonk noted mild or minimal redness and edema around the incision site.

surgery there was difficulty with the threading of one screw and it was removed and replaced. Proper alignment of the foot and ankle were achieved. Bonk Trial Test., ECF No. 139 at 46-48. Boden was directed to be non-weight-bearing on his right ankle. Id. at 51. Three days after the surgery, an X-ray showed widening of the medial joint space, which was new since the pre-operative study. Id. at 107.

One month later, Boden reported no complaints and imaging showed "good reduction of previous deformity." There was no redness or discharge and only mild edema. He was directed to continue non-weight-bearing. Progress Notes, ECF No. 80 at 214; Bonk Trial Test., ECF No. 139 at 48-51. On February 3, 2015, Boden reported hearing a "pop" in his ankle and experienced sudden pain. Boden told the doctor in the emergency room that he had visited his grandchildren in Florida the previous week. Treatment Notes, ECF No. 80 at 215-18; Bonk Trial Test., ECF No. 139 at 52-53. Upon review of his X-rays, Dr. Bonk discovered that the distal screw in Boden's right ankle was loose and needed to be removed. ECF No. 80 at 219-23; Bonk Trial Test., ECF No. 139 at 53-55. On February 19, 2015, Boden asked the VA to allow him to see a non-VAMC podiatrist because he was told that the first surgery was "guaranteed to work" and it did not. He also complained that since the first surgery his ankle and knee had been numb "and the doctor even said there was nerve damage done." Progress Notes, ECF No. 80 at 224. After the February 18, 2015 appointment, Dr. Bonk ceased treatment of Boden.

C. Julie Greenwood, DPM

Pursuant to Boden's request, he began to see a non-VA podiatrist, Dr. Julie Greenwood, in Richmond, Virginia, on February 25, 2015. During this initial appointment,

Dr. Greenwood confirmed Dr. Bonk's diagnosis that the distal screw was loose and needed to be removed. Greenwood Treatment Notes, ECF No. 80-5 at 1-2. On March 12, 2015, Dr. Greenwood reinserted the loose screw rather than removing it because the "screw was holding very well[,]" she was "pleased with its alignment[,]" and she also found that "[e]ach screw had good bony apposition, no signs of backing out of any other screw and no changes from preoperative x-ray." Id. at 5-6. Following this procedure, Dr. Greenwood told Boden to remain "strictly non-weightbearing with CAM boot" until told otherwise. Id. at 6.

Despite being advised to remain non-weight-bearing, on March 21, 2015, Boden drove himself eight hours to pick up a dog in Pennsylvania, and during the drive, Boden was side swiped by a tractor trailer. Id. at 9. On March 25, 2015, Boden denied any significant injury or worsening of pain in his right foot. Dr. Greenwood confirmed that the distal screw was again loose, and she noted that she was "[u]ncertain whether failure of screw occurred again or secondary to car accident." She told Boden that he needed to remain non-weightbearing on his right ankle and that he would need surgery again to remove or replace the loose screw. Replacing the screw would require removing all the other screws and reapplying "DJD" adding extra compression, which could damage any healing that was occurring in the ankle joint. Boden elected to remove the screw. Id. at 9-10.

On March 27, 2015, Boden underwent a second surgery with Dr. Greenwood to remove the loose distal screw. Id. at 12-13. In her postoperative report, Dr. Greenwood noted that "[u]nfortunately screw backed out again, it is the proximal calcaneal screw, uncertain whether it is due to non[-]weightbearing status, mobility, failure of screw, or patient has recently been in a car accident." Id. Boden saw Dr. Greenwood on April 2, 2015 and she noted

that his incision was healing with no sign of infection. He had mild swelling and no ecchymosis or erythema. His foot and ankle were appropriately aligned and he had general diffuse pain in his posterior foot and ankle. Id. at 14.

Over the next several months, Dr. Greenwood continued to assess Boden as having a delayed union of his right ankle. Id. at 17, 19, 21, 23, 26. In July 2015 he reported severe pain with palpation to the anterior and lateral aspect of his right ankle. Id. 23. Dr. Greenwood recommended a second fusion surgery, and Boden agreed. On August 6, 2015, Dr. Greenwood performed a second ankle fusion on Boden. Id. at 28-32. Dr. Greenwood reported that "[g]ood cartilage preparation was noted to this joint from previous surgery." Id. at 30.

At a follow-up appointment on August 17, 2015, Boden reported pain as a 7 out of 10. He had no signs of weight-bearing on his right foot. Boden asked Dr. Greenwood to write a letter stating that his second ankle fusion surgery was not in relation to his March 21, 2015 car accident, and Dr. Greenwood wrote the note. Id. at 33-34. Two weeks later Boden reported he was "doing much better" with less pain and swelling. X-rays showed good bone to bone apposition but no signs of healing. Id. at 36. On September 21, 2015, X-rays showed possible early bone healing along the medial aspect of the compression screw at the level of the ankle and at the medial aspect of the talor dome. Id. at 39. On October 8, 2015, Dr. Greenwood stated she saw no definite bony changes from two weeks previously. Id. at 42. A CT scan on October 28, 2015 showed signs of healing to the lateral aspect of the subtaler joint and signs of healing to the central lateral aspect of the tibiotalar joint. There was no sign of healing at the medial aspect of the ankle joint. Id. at 44.

On November 18, 2015, X-rays showed no significant bony growth or changes in joint spaces. Dr. Greenwood discussed additional conservative treatment as well as other surgical options. Id. at 49. On December 9, 2015, Boden again met with Dr. Greenwood to discuss his delayed healing and potential nonunion of his ankle bones. Boden also informed Dr. Greenwood of his intention to move to Florida. Id. at 50-52.

On December 21, 2015, Boden emailed Dr. Greenwood and asked that she write another letter regarding his ankle, requesting that this letter state that the second fusion surgery was the direct result of Boden's car accident, which would contradict the first letter he requested. ECF No. 43-1. On December 22, 2015, Dr. Greenwood responded to Boden's request, explaining that she could not provide the requested letter because it was not supported by the medical records. She pointed out that the first time the screw backed was unrelated to any accident and after the accident, he denied any significant injury or pain to his right foot. ECF No. 43-3.

At Boden's follow up appointment on January 11, 2016, Dr. Greenwood again explained that she could not provide Boden with the requested letter, and Boden voiced his discontent. Greenwood Progress Notes, ECF No. 80-5 at 54. Following the January 11, 2016 appointment, Boden moved to Chiefland, Florida, and Dr. Greenwood ceased treatment of him. However, she did advise Boden that he needed to set up care in Florida. Boden began treatment at the Gainesville VAMC. Boden Trial Test., ECF No. 152 at 46-47.

Upon review of his CT scans and discussion of his previously failed surgeries, the Gainesville VAMC recommended either another fusion surgery or amputation, and Boden opted for amputation. Id. at 47. On October 21, 2016, Boden underwent a below-the-knee

amputation on his right leg. The pre- and post-operative diagnoses were "right ankle nonunion and failed arthrodesis." Surgical Information, ECF No. 79-5.

D. Richard Derner, DPM

Dr. Derner is a podiatric surgeon and the court found him qualified to testify on behalf of Boden as to the standard of care for foot and ankle surgery in Virginia, causation of CRPS, and about the imaging techniques and devices he uses on a daily basis in his work. Derner Trial Test., ECF No. 137 at 66-67.

Dr. Derner explained the difference between mechanical instability and functional instability of ligaments, with mechanical instability being a condition where the ligaments are so outstretched that you can see movement on an X-ray if they are moved beyond their physiological limit. Functional instability is the "classic torn ligament." If a ligament is badly torn, it cannot do its job of holding bone to bone. Id. at 75. Whether instability is mechanical or functional is determined by clinical examination, advanced imaging, and regular or potential radiographic stress examination when one ankle is compared to the other ankle. Id.

Based on the treatment notes of April 4, 2014 and the MRI referenced in the notes, Dr. Derner believed that Boden was suffering from a muscle imbalance rather than an issue with a tendon or ligament, with the inside muscle of his foot being stronger than the outside muscle. Id. at 79. He observed that Boden's foot was splinted in the varus position and said that if Boden were in pain from spraining his ankle, he would not be walking on the outside of his ankle. Id. at 79-80. Also, the fact that the nerve block that Dr. Lembach administered increased his range of motion indicated that the foot was not in a fixed position, because once the pain was gone, he was able to move his foot back and forth. Id. at 80. In addition, the

negative anterior drawer sign indicated that the ligament was intact. Id. Also, the findings on the MRI were that the ligaments were "mostly maintained." Id. Dr. Derner believed that Boden had a neuromuscular condition causing ligamentous instability, rather than ankle instability, per se. Id. at 82. Also, based on Dr. Crowley's examination notes of April 21, 2014 showing Boden had a negative anterior drawer test and normal strength in his foot, Dr. Derner believed Boden had either subtalar joint instability or something other than the ankle causing functional instability. Id. at 85.

Regarding the negative EMG/NCS, Dr. Derner said that Boden still could have had a neuromuscular cause for his foot to invert because "in the early beginning of a deformity, you don't see the gross changes that occur." He added that if a nerve were just slightly damaged, the study might not show anything. Id. at 89. Dr. Derner said that even though Boden had complained of ankle sprains for twenty years, the first time the spasm and inward positioning of the foot was noted was on April 24, 2014. Id. A negative EMG/NCS does not rule out neuromuscular pathology. Id. at 89-90.

Dr. Derner testified that it was below the standard of care for Dr. Bonk to not have conducted an independent examination of Boden's ankle, especially when "you have one doctor saying it's instability, the other one not saying it's instability." Id. at 91. He opined that Dr. Bonk should have done weight-bearing X-rays, or stress X-rays, or at the very least given his rationale for choosing the SPBLAS procedure over another procedure. Id. at 92. The standard of care requires a doctor to do a careful pre-operative workup to determine what surgical procedure is best for the situation. Id. at 93-94. Dr. Derner agreed with the literature stating that a doctor would diagnose mechanical instability utilizing the anterior drawer and

talar tilt (stress inversion) exams and always perform a contralateral comparison with both exams. Id. at 95. In addition, the literature states that weight-bearing radiographs comparing the affected foot to the unaffected foot are imperative in assessing the overall alignment of the foot. Id. at 96.

Dr. Derner's review of the record showed that Dr. Bonk did not conduct an independent examination of Boden's ankle before the first surgery. Rather, a resident, Dr. Elliott, cut and pasted Dr. Lembach's notes into the record. And before the second surgery, Dr. Bonk again cut and pasted Dr. Lembach's notes into the record. A surgeon needs to do a hands-on examination of the patient and Dr. Bonk's failure to do so means his actions fell below the standard of care. Id. at 98-108.

Dr. Derner also believed Dr. Bonk's decision to do the SPBLAS surgery fell below the standard of care because Boden's ankle problems were caused by muscle weakness rather than a tendon problem. Id. at 108-109. Also, splitting the tendon as part of the SPBLAS procedure, to turn the tendon into a ligament, was a mistake because there was nothing wrong with the ligament on that side. Id. at 109-113. Instead, Dr. Bonk should have transferred a tendon from the inside of the foot to the outside of the foot to make the foot straight because the ligaments were never the problem. Id. at 113-114, 116. His decision to not do the tendon transfer surgery fell below the standard of care. Id. at 117-18.

The SPBLAS procedure failed. Id. at 122. Dr. Derner believes it was impossible for Boden to keep his foot in the corrected position because he had a neuromuscular problem with his evertors. Id. at 123, 124. The fact that Dr. Bonk noted that post-surgery Boden's foot was in the equinovarus position indicates that the posterior tibial tendon was firing without

any antagonist. The antagonist would have been the peroneus brevis, but Dr. Bonk had used part of the peroneus brevis tendon for stabilization. Id. at 125.

Dr. Derner testified that when Boden complained of pain after the hematoma surgery that was characterized as "pain out of proportion," it indicated that there was a neurologically mediated cause. Id. at 129-130. The reports of "pain out of proportion" and edema indicated that a reasonably prudent surgeon should suspect that Boden had CRPS. Id. at 130. Dr. Bonk did not refer Boden to a pain specialist and his decision to not make the referral fell outside the reasonable standard of care. Id. at 131. In addition, the standard of care required Dr. Bonk to bring Boden's pain under control before proceeding with the ankle fusion surgery. Id. at 132-33.

After the SPBLAS surgery failed, there was no indication for a reasonably prudent surgeon to conclude that Boden needed the fusion surgery. Id. at 135. Instead, he could have done a posterior tibial transfer and his decision to not do so fell below the standard of care. Id. at 136-137. That surgery, even if performed as late as December 2014, would have avoided the amputation of Boden's leg. Id. at 136-37.

Dr. Derner testified further that after the fusion surgery, there was angulational deformity and gapping associated with the fusion itself. Id. at 137-42. When Dr. Bonk saw the gap on fluoroscopy during surgery, he should have taken the screws out and redone it, but he did not do so. Id. at 142. Ultimately, the fusion surgery resulted in a non-union, meaning that the bones did not heal together. Id. Three days after the surgery the gap appeared bigger and it is to be expected that the gap will expand over time with movement, even when a person is

in non-weight-bearing status. A gap of over two millimeters inhibits bony healing. Id. at 145-48.

Other factors that affect whether a union is formed include a patient's ability to heal, a patient's overall metabolic health, the quality of a patient's vascularity, and compliance with a doctor's orders, particularly to be non-weight-bearing for a specified period of time. Sometimes multiple factors cause a nonunion to occur. Id. at 240. The literature on non-union following ankle fusion surgery indicates nonunion rates are as high as forty percent. Id. at 241-42. In Dr. Derner's opinion, Dr. Bonk's deviations from the standard of care led to Boden's amputation. Id. at 136-37.

E. John Steinberg, DPM

Dr. Steinberg is a podiatric surgeon and the court found him qualified to testify as an expert on behalf of the United States on the standard of care in podiatric medicine, and specifically foot and ankle surgery, the treatment of foot and ankle conditions, and causation and diagnosis of CRPS. Steinberg Trial Test., ECF No. 139 at 122-23, 129-30. Dr. Steinberg summarized Boden's medical history, focusing on the conservative treatment he received up until 2014, including medication, physical therapy, bracing, and pain injections. Steinberg Trial Test., ECF No. 139 at 130-41. Dr. Steinberg concluded that Dr. Bonk's treatment of Boden was "wholly within the standard of care." Id. at 130.

Dr. Steinberg testified that there are probably twenty to thirty tendon transfer surgeries for lateral ankle stabilization procedures. The procedure a surgeon chooses is based on training, background, and personal preference. Id. at 145. Dr. Steinberg believed Dr. Bonk's choice of the SPBLAS surgery was completely within the standard of care for a patient with

well-documented chronic lateral ankle instability. Id. at 146. Dr. Steinberg believed Boden had ligament laxity, a severe ankle deformity, and chronic ankle instability, all of which are indications for the SPBLAS procedure. Id. at 146-47.

Dr. Steinberg opined that Boden's original injury likely involved the lateral ligaments and that the ligaments became further weakened over time. With multiple subsequent sprains, the ligaments became so stretched out that they were no longer functional, causing him to trip multiple times a week, leading to contracture and ankle deformity. Dr. Steinberg opined that the bones were no longer aligned and the ligaments were not holding them in place. Id. at 147. Boden had a varus ankle deformity, meaning his foot collapsed underneath his leg, resulting in repeated sprains. Id. at 149-50.

The SPBLAS procedure can address both functional instability and mechanical instability because it can tether the ankle together to keep it from falling out from under his leg. Id. at 152. The SPBLAS procedure does not rely on muscle function. Rather, transferring the split perneous brevis tendon makes it act as a tether, or an internal brace, between the bones. Id. at 153.

A diagnosis of ligamentous laxity is a system-based diagnosis. In Boden's case, his reports of his ankle inverting, spraining, and causing him to fall showed textbook lateral ligament instability. In addition, X-rays showed that his foot was out of position and even though X-rays do not show ligaments, a doctor can infer that the ligaments are not functioning, because if bones are out of position, it is reasonable to assume that they are not being held together by the ligament that is supposed to do that. Id. at 153-54. Boden's MRI showed that his ligaments were mostly intact, but given the nature of MRIs, that does not

mean that they are completely intact. Radiologists use that language because it is impossible to tell from an MRI whether all ligaments in all their substance are intact. Id. at 154-57. Nor can an MRI show ligament laxity because it cannot distinguish between a lengthened ligament and a normal ligament. Id. at 158. Dr. Lembach also noted that an MRI finding that lateral ligamentous complexes are mostly maintained is not definitive that they are completely maintained. Lembach Dep., ECF No. 58-2 at 16-18.

The fact that Boden had a negative anterior drawer test did not mean that the SPBLAS procedure was contraindicated, because the test typically is only positive when an ankle is dislocated or sliding out of joint or there are severe ruptures of multiple ligaments. Steinberg Trial Test., ECF No. 139 at 159-60. Other objective findings, such as tenderness, pain and swelling over the lateral ankle, tenderness over the calcaneal fibular ligament, mild tenderness over the anterior joint, and hypermobility in the ankle all supported the diagnosis of ligament laxity. Id. at 161. X-rays taken over time indicated that Boden's deformity was slowly progressing. Id. at 162-64.

It was important for Dr. Bonk to try address Boden's ankle injury using the SPBLAS procedure was because Boden was diabetic. If he were to continue to walk such that he was weight bearing on the outside of his ankle he risked a skin injury which could lead to ulceration, infection, and amputation. Id. at 168-69.

The standard of care in this case did not require Dr. Bonk to order additional X-rays because Boden had an obvious deformity confirmed with objective findings on clinical examination. Id. at 169-70. Dr. Steinberg stated that Boden's situation was not one where a doctor would be trying to figure out the cause for the deformity because the deformity was

quite evident. A weight-bearing X-ray would be called for if a doctor were worried about something that only presented in a functional standpoint, rather than an obvious deformity visible on the non-weight-bearing X-ray. Id. at 170. Nor did Dr. Bonk violate the standard of care by not doing a physical examination of Boden, because he had reference to the exams done by other practitioners in the record. Id. at 171. If Dr. Bonk did not at least do a physical exam in the preop area, Dr. Steinberg "would have a problem with that." Id. at 173.

If a provider does an informal consult with another provider, the standard of care does not require that a note be made of the encounter. Id. at 183. Dr. Steinberg testified that based on his review of the record, and the relief Boden received from the injection into the common peroneal nerve by Dr. Lembach, Boden did not have a neuromuscular issue but rather a ligamentous issue. Id. at 189-90. In addition, the negative EMC/NCV ruled out neuromuscular problems for Boden. Id. at 193.

Dr. Steinberg also cited to medical literature that supported his opinion that the SPBLAS procedure was indicated in Boden's case. An excerpt from one of the journals stated that using a split peroneus tendon graft allows the preservation of muscle strength which is important for eversion of the ankle. Id. at 198-99. Nor would there have been any indication to do an anterior tibial transfer because that procedure would be a workaround rather than a repair. Id. at 181.

Dr. Steinberg did not believe Boden suffered from CRPS because he did not have the symptoms for the diagnosis, notwithstanding Dr. Shearer's opinion that there was a high likelihood that Boden had CRPS. Id. at 207. The diagnosis of CRPS is made clinically and there are no diagnostic tests for it. It is uncommon, and characterized by severe pain, skin

changes, and swelling. Id. at 209. CRPS is often misdiagnosed because there is no gold-standard diagnostic feature that distinguishes it from presentations which clearly are not CRPS. Id. at 211. Dr. Greenberg never diagnosed Boden with CRPS. Id. at 276-77.

Dr. Steinberg testified that the standard of care did not require Dr. Bonk to refer Boden to a neurologist or pain specialist after surgery. Id. at 212. Dr. Bonk's decision to proceed with the ankle fusion surgery was the appropriate next step in his care, given the failure of the soft tissue attempt. Id. at 213. He could have tried another tendon transfer, but when that has been tried and failed, it makes sense to advance to the next level of treatment. Id. at 214. Dr. Steinberg reviewed images and operative notes from the surgery, and Dr. Greenberg's notes from the second surgery, and believed Dr. Bonk conducted the fusion surgery appropriately and achieved proper alignment. Id. at 218-24.

Despite Dr. Bonk properly performing the ankle fusion surgery, Boden's bones never grew together. Id. at 224-25. Approximately ten percent of ankle fusions result in a nonunion. Id. at 225.[3] Dr. Steinberg believed that factors which caused Boden's nonunion included the severe and chronic nature of his deformity, Boden's noncompliance or movement after the surgery, or hardware failure. Id. at 228-29.

If Dr. Bonk did not have a reference for why he booked the surgery, why he scheduled the surgery, and why he arrived at a surgical decision, his actions would fall below the standard of a care. Id. at 237. Dr. Steinberg would have examined Boden prior to surgery, but that does not mean that Dr. Bonk's failure to do so fell below the standard of care because Boden had

[3] Dr. Derner testified that the scientific literature shows that non-union occurs up to forty percent of the time. Derner Trial Test., ECF No. 137 at 241-42.

been evaluated by Dr. Lembach who referred him for surgery. Id. at 248-49. Also, even if Bonk violated the standard of care by not performing his own evaluation of Boden, Dr. Steinberg believed he performed the appropriate surgery when he chose the SPBLAS procedure. Id. at 251-52, 278-79.

F. Robert Boden

Plaintiff Robert Boden described how he injured his right ankle approximately thirty years previously when he was in the Army and stated he has had problems with it ever since. Boden Trial Test., ECF No. 152 at 12. His ankle has gotten progressively more painful and he began to roll it more often, as often as two or three times per month. Id. at 14. In the last ten years, his ankle has never been free of pain. Id. at 15.

Neither time when Boden saw Dr. Lembach was Dr. Bonk in the room. Id. at 18. When Boden saw Dr. Bonk in June 2014, Dr. Bonk did not examine his ankle or touch Boden at all. He did not ask Boden to walk and performed no tests. Dr. Bonk was looking at a computer and told Boden that it looked like he needed surgery. Id. at 19. Boden understood from Dr. Lembach that he was going to have more physical therapy and did not want to have surgery. Id. at 20. Nevertheless, it is uncontested that Boden consented to the surgery.

After the first surgery, Boden was in a great deal of pain and Dr. Bonk told him, "It's probably your nerves that were causing all the pain; that he might have, you know, probably hit a nerve, and that's what's causing all the pain.'" Id. at 31. When his foot continued to turn in after the surgery, Dr. Bonk told him he needed an ankle fusion. Dr. Bonk did not discuss any alternatives to the surgery, even though Boden told him that he did not want to have it. Id. at 32. Boden agreed to have the surgery because Dr. Bonk said he needed it. Id.

Boden remained non-weight-bearing after the surgery and he was in a great deal of pain. His leg and ankle felt like they were on fire. He also had numbness in his ankle. Id. at 33-34. He told Dr. Bonk that he thought a screw had come loose and Dr. Bonk told him that it would be okay if the screws came out because the bones would still fuse together. Boden lost confidence in Dr. Bonk and asked to see an outside podiatrist. Id. at 34-35.

Boden saw Dr. Greenwood whose treatment records of Boden are summarized above. Following surgery to replace the loose screw in his ankle, Boden drove to Pennsylvania to pick up a dog and was involved in an automobile accident. Id. at 36. He thought Dr. Greenwood had told him it would be fine for him to drive as long as he used crutches to walk. Id. at 37. During the accident his ankle hit the middle console in the car. Id. He had pain from his calf to his ankle after the accident. Id. at 38. He told Dr. Greenwood at a visit a week after the accident that he did not have any significant injury or worsening of pain in his right foot. Id. at 39. After that accident and after the second surgery for the loose screw and the second ankle fusion surgery, Boden asked Dr. Greenwood to write a letter on his behalf stating that the second loose screw and the nonfusion after the ankle surgery did not occur as a result of the car accident. Id. at 105. Dr. Greenwood wrote the requested letter. Id. at 106.

A few months later, Boden asked Dr. Greenwood to write a letter on his behalf blaming the nonunion and the loose screw on the accident because he wanted to collect damages to have his car repaired from the owner of the tractor-trailer that sideswiped him in the accident. Id. at 39-42, 108-09. Boden asked Dr. Greenwood to say that he heard a pop when his right ankle hit the console and that prior to the accident the bones were healing and would have continued to heal were it not for the accident. Id. at 42. Dr. Greenwood responded

that she could not write the letter for him because it was not supported by the medical records. After the accident he denied any significant injury or worsening of pain in his right foot. Also, she did not know why the screw backed out the second time and his ankle bones showed no signs of healing before the accident. Letter of Dec. 22, 2015, ECF No. 43-3.

During the time Dr. Greenwood was treating Boden, he was in constant pain. His ankle throbbed and felt like it was on fire. Id. at 46. After Boden moved to Florida, he decided to have the amputation because he hoped he would be able to at least attempt to walk and run with a prosthesis. He also hoped the pain would subside. Id. at 48. He has had many problems using his prosthetic leg and no longer wears it when he is not at work. Id. at 55-57.

Regarding his requests to Dr. Greenwood that she write two letters with conflicting theories of injury, Boden conceded that he asked Dr. Greenwood to write whatever he thought he needed to say in order to win money in a lawsuit against the driver involved in his automobile accident. Id. at 105-14. When Boden was questioned about the letters during his deposition, he testified that he did not write the letters to Dr. Greenwood. However, at trial, Boden admitted to being their author and stated that he was "wrong" in his deposition. Id. at 114-16.

Boden testified that he left the Air Force to join the Army because it was easier to advance up the ranks in the Army. Id. at 7-8, 10. However, he later confirmed that his true reason for leaving the Air Force was because he had a "blowup" with his sergeant and was discharged. Id. at 70.

The government asked Boden about a post on Boden's Facebook page seeking a contractor to remodel his home, which stated that Boden was a "veteran that has a prosthetic

leg due to combat." Id. at 134. Boden denied that he made the post and instead attributed the post to his account being hacked. Id. at 134-38. Contained within the Facebook post were the exact items that Boden needed for his home to be remodeled to accommodate his disability and for which he was seeking a grant from the VA. Id. Boden also testified that he no longer attended sporting events or engaged in gardening but conceded on cross examination that he still gardens and no longer attends baseball games due to activism disagreements with Major League Baseball. Id. at 144-46.

IV. Findings of Fact

Based on the foregoing testimony and evidence and the court's evaluation of the credibility of the witnesses, the court makes the following findings of fact:

1. Boden initially injured his right ankle in 1990 or 1991 while in the Army and later reinjured it while playing football. Over time, his ankle became more unstable and by 2006 it was continually giving way and causing him to fall, which resulted in repeated sprains.

2. From 2007 through 2013, Boden complained about ankle pain and instability. He reported falls related to his ankle giving out and his ankle was described as showing signs of deformity. Boden was prescribed several types of conservative treatment, including physical therapy and braces for his ankle.

3. In 2013 and 2014, two providers, Dr. McLeod and Dr. Crowley, diagnosed Boden with "chronic right ankle instability." Dr. Crowley referred Boden to the VAMC Podiatry Clinic for possible lateral ankle stabilization surgery.

4. At the Podiatry Clinic, Boden twice saw Dr. Lembach, who examined him, performed some testing on his ankle and reviewed images of his ankle. Dr. Lembach described Boden's right

foot as being "splinted in varus and adducted position by patient." She noted that he described his foot slapping the ground when he walked. Dr. Lembach was concerned that there was a neuromuscular component to Boden's ankle problem and ordered EMG/NCV testing to rule out a neuromuscular cause for Boden's pain and the position of his ankle. Dr. Lembach left the VAMC practice before the results of the EMG/NCV testing became available.

5. Dr. Bonk was not present at either examination Dr. Lembach performed on Boden. Although there was conflicting testimony on this issue, the court finds that given the fact that there is no written record of Dr. Bonk being present when Dr. Lembach examined Boden, and that Boden testified that Dr. Bonk was not present, the record supports the conclusion that Dr. Bonk was not present at the examination.

6. Dr. Lembach discussed Boden's case with Dr. Bonk prior to her leaving VAMC.

7. On May 22, 2014, the results of the EMG/NCV test showed no irregularities in Boden's neuromuscular activity. Based on the results of the EMG/NCV test, Dr. Bonk ruled out common peroneal nerve dysfunction as a cause of Boden's deformity.

8. Dr. Bonk met with Boden on June 10, 2014, and informed him that based on the test results, he believed that Boden's ankle pain stemmed from chronic ankle instability and laxity. Dr. Bonk did not perform an examination of Boden at that time and did not perform any tests.

9. Boden was diabetic, and Dr. Bonk was concerned about the varus position of Boden's ankle. He worried that if Boden continued to put pressure on the outside of his foot, he would develop ulcerations which would increase his odds of needing an amputation.

10. Dr. Bonk considered four surgical options for Boden before deciding that the SPBLAS procedure was appropriate because it would give the ankle the strength and rigidity it needed and because Dr. Bonk was familiar with the procedure and the results that could be expected.

11. Dr. Bonk performed the SPBLAS procedure without complication. After the surgery, Boden's foot was in the corrected position.

12. Approximately one month after the SPBLAS procedure, Boden's foot was beginning to splint back into the varus position. The most probable cause for that was that the stronger tendon on the inside of the foot was once again pulling the foot in.

13. Boden complained of severe pain that Dr. Bonk considered to be out of proportion to his post-surgery status.

14. Despite Dr. Shearer opining that there was a high likelihood of Boden having CRPS, neither Dr. Bonk nor Dr. Greenwood diagnosed him with CRPS. The diagnosis of CRPS is uncommon, and characterized by severe pain, skin changes, and swelling. Neither Dr. Bonk nor Dr. Steinberg believed that Boden was suffering from CRPS because other than "pain out of proportion," he did not show the traditional signs and symptoms of CRPS. According to the scientific literature, CRPS is often misdiagnosed because there is no gold-standard diagnostic feature that distinguishes it from presentations which clearly are not CRPS. Dr. Greenwood never diagnosed Boden with CRPS. The court finds that the evidence in the record, including both Dr. Bonk's and Dr. Greenwood's post-surgical exam findings of mild edema and redness, and the fact that Dr. Greenwood neither suspected nor diagnosed CRPS, support the conclusion that Boden did not suffer from CRPS.

15. The condition of Boden's ankle continued to worsen. He described unbearable pain in the ankle and presented with "acquired equinovarus," which was a new finding. Dr. Bonk determined that the SPBLAS procedure had failed and discussed additional conservative and surgical options with Boden.

16. Dr. Bonk believed an ankle fusion surgery had the best chance of success and recommended it to Boden, who consented to the procedure.

17. Dr. Bonk performed the right ankle fusion with IM rod surgery on December 28, 2014. During the surgery there was an issue with one of the screws and it was removed and replaced. Proper alignment of the foot and ankle were achieved.

18. Three days after the surgery, an X-ray showed widening of the medial joint space, which was new since the intraoperative study.

19. One month after the ankle fusion surgery, Boden reported no complaints about the surgery and imaging showed "good reduction of the previous deformity." He was directed to continue his non-weight-bearing status.

20. On February 3, 2015, Boden went to the emergency room after hearing a "pop" in his ankle and experiencing sudden pain. He reported having visited his grandchildren in Florida the previous week.

21. X-rays revealed that the distal screw in Boden's right ankle was loose and needed to be removed. Dr. Bonk recommended surgery to remove the loose screw.

22. Boden sought and was granted permission from the VA to see an outside podiatrist because he had lost faith in Dr. Bonk. He reported that since the first surgery his knee and ankle had been numb.

23. A non-VA podiatrist, Dr. Greenwood, confirmed that the distal screw was loose and recommended surgery to replace it. During surgery on March 12, 2015, Dr. Greenwood elected to reinsert the screw rather than remove it. Dr. Greenwood told Boden to remain strictly non-weight-bearing and to wear his CAM boot until told otherwise.

24. Nine days later, on March 21, 2015, Boden drove himself and his daughter to a destination eight hours away to pick up a dog. While driving, Boden's car was sideswiped by a tractor trailer, causing his right leg to hit the center console.

25. On March 25, 2015, Boden reported the accident to Dr. Greenwood, but denied any significant injury or worsening of pain.

26. Dr. Greenwood noted that the distal screw had once again come loose, but she was unsure if it failed, or became loose secondary to the car accident.

27. On March 27, 2015, Boden underwent a second surgery with Dr. Greenwood to remove the loose distal screw.

28. Dr. Greenwood determined that Boden's initial ankle fusion performed by Dr. Bonk never achieved union and recommended that Boden undergo a second ankle fusion surgery. Boden consented to the surgery.

29. Dr. Greenwood performed the second ankle fusion surgery on August 6, 2015. In performing the second surgery, Dr. Greenwood noted good cartilage preparation to the joint from the previous surgery.

30. On August 17, 2015, Boden asked Dr. Greenwood to write a note indicating that the second loose distal screw and the second fusion surgery were unrelated to his March 21, 2015 vehicle accident and Dr. Greenwood obliged.

31. In September 2015, imaging showed good bone-to-bone apposition in Boden's ankle, but no signs of healing. Boden reported he was doing better with less pain and swelling.

32. In October 2015, imaging showed signs of healing to the lateral aspect of the subtaler joint and signs of healing to the central aspect of the tibiotalar joint, but no sign of healing at the medial aspect of the ankle joint. Dr. Greenwood discussed additional conservative treatment as well as surgical options for Boden.

33. In December 2015, Boden asked Dr. Greenwood to write another letter, this time attributing the non-healing of his ankle fusion to injuries sustained in the March 2015 car accident. Dr. Greenwood declined to do so because such findings were not supported by the medical records.

34. Boden moved to Florida in early 2016 and began receiving treatment at the VAMC in Gainesville.

35. Upon reviewing Boden's imaging and discussing the previous failed surgeries, doctors at the VAMC in Gainesville recommended either another fusion surgery or a below-the-knee amputation and Boden opted for amputation. The pre- and post-operative diagnoses were "right ankle nonunion and failed arthrodesis."

V. Conclusions of Law

Boden asserts that Dr. Bonk committed medical malpractice when he failed to fully evaluate the reasons for Boden's ankle instability prior to surgical intervention; failed to consider concerns for deformity and/or for CRPS prior to surgical intervention; and twice failed to perform the proper surgical procedure. Boden made other claims in his original complaint, ECF No. 1, but has abandoned several claims over the course of the litigation. He

abandoned his claim that Dr. Bonk did not obtain informed consent, ECF No. 54; that Dr. Bonk breached the standard of care by failing to provide sufficient conservative care, ECF No. 152 at 247; and that Dr. Bonk's performance of the first ankle fusion surgery fell below the standard of care. See id. at 190-91.

To prevail on a medical malpractice claim, a plaintiff must establish (1) the standard of care; (2) breach of that standard; and (3) that the breach was a proximate cause of the injury. Bitar v. Rahman, 272 Va. 130, 137-38, 630 S.E.2d 319, 323 (2006). Under Virginia law, the standard of care by which medical malpractice "acts or omissions" are judged "shall be that degree of skill and diligence practiced by a reasonably prudent practitioner in the field of practice or specialty in this Commonwealth." Va. Code § 8.01-581.20. "The mere fact that the physician has failed to effect a cure or that the diagnosis and treatment have been detrimental to the patient's health does not raise a presumption of negligence." Bryan v. Burt, 254 Va. 28, 33, 486 S.E.2d at 539, 254 (Va. 1997). See also Chapple-Brooks v. Nguyen, Rec. No. 161812, 2017 WL 6616593, at *3 (Va. Dec. 28, 2017) (unpublished) (quoting Brown v. Koulizakis, 331 S.E.2d 440, 445, 229 Va. 524, 532 (1985)) ("'[A] physician is not an insurer of the success of his diagnosis and treatment nor is he held to the highest degree of care known to his profession.'")

Expert testimony generally is needed to prove the elements of a medical malpractice claim, and courts may only consider expert testimony which is given to a reasonable degree of medical certainty. Bitar, 272 Va. at 138, 630 S.E. 2d at 323. The plaintiff bears the burden of proof and must establish it by a preponderance of the evidence. Vahdat v. Holland, 649 S.E.2d 691, 695, 274 Va. 417, 423-24 (2007).

A. Standard of Care as to April 24, 2014 and June 10, 2014 Appointments

At trial, Dr. Derner testified that the standard of care required Dr. Bonk to get some "objective proof of the reason for the suspected instability" in Boden's foot and ankle through utilizing a physical exam or imaging before opting for surgery. Derner Trial Test., ECF No. 137 at 90. A physical exam was required in this case because of the "conflicting information" found in Boden's medical notes from other doctors. Id. at 90-91. It was Dr. Bonk's duty, as the primary surgeon, to ensure that he "touch and feel and hold and examine a patient." Id. at 107-08. Dr. Steinberg agreed that prior to operating, the standard of care requires the treating surgeon to "[e]valuate the patient, evaluate the prior records, and make a determination for care." Steinberg Trial Test., ECF No. 139 at 141. The medical literature also supports this uncontested fact. See ECF No. 88-28 ("A thorough history and physical examination should elicit necessary information to suspect mechanical or functional ankle instability."). A preoperative physical exam aids a surgeon in distinguishing between mechanical and functional instability and ligament issues due to some muscular imbalance. Derner Trial Test., ECF No. 137 at 94-95.

Dr. Derner also testified that as part of this preoperative physical exam, a surgeon should order weight-bearing and stress X-rays and conduct an anterior drawer and talar test. Id. at 91-93. Again, the medical literature supports Dr. Derner's testimony. See e.g., ECF No. 88-28 ("One would diagnose mechanical instability utilizing the anterior drawer and talar tilt exams. Always perform a contralateral comparison with both of these exams."); ECF No. 88-29 ("Weight-bearing radiographs are imperative to assess the overall alignment of the ankle

and foot. Stress radiographs . . . are the gold standard in diagnosing mechanical instability."); see also Derner Trial Test., ECF No. 137 at 94-95.

Although Dr. Bonk testified that he was present at Boden's April 24, 2014 appointment with Dr. Lembach and performed a preoperative physical exam, as discussed above, the court did not find that testimony credible and concluded that Dr. Bonk was not present during that examination. Nor does it appear that Dr. Bonk performed a physical examination of Boden or conducted any tests at the June 10, 2014 appointment.

As Drs. Derner and Steinberg and the medical literature agree that a physical examination is a necessary part of a medical evaluation, and not performing one deviates from the standard of care, the court finds that Dr. Bonk deviated from the standard of care and was negligent in not performing a pre-surgery examination of Boden. Nevertheless, as discussed below, this failure to adhere to the standard of care did not harm Boden.

B. Decision to Perform the SPBLAS Procedure

Dr. Derner testified that Dr. Bonk's choice of surgery "didn't address [Boden's] problem," and suggested that the proper procedure was a tibial tendon transfer. Derner Trial Test., ECF No. 137 at 113. He explained that "[t]wo specific tendons are causing the foot to be pulled in. One on the top of the foot, which helps it pull up, and the other one on the inside, which helps it pull in." Id. at 114. He believed that the correct surgery to perform was the tibial tendon transfer in order to "transfer one [tendon] from the inside of the foot to bring it onto the outside of the foot, so now the foot is straight[ ]" because this procedure would "prevent him from inverting the foot and [ ] give him strength on the outside" but still allow him to have motion in his ankle. Id. at 114, 116-17.

Dr. Derner further testified that the SPBLAS was an inappropriate surgery and outside the standard of care because it did not address the "neuromuscular changes" in Boden's foot structure and those changes were key to the decision-making. Derner Trial Test., ECF No. 137 at 118. However, the EMG/NCS was negative and there are no findings in the record showing that Boden suffered from neuromuscular changes. Even though Dr. Derner opined that a negative EMG/NCS test did not rule out a neuromuscular change, in the absence of evidence showing that Boden had neuromuscular changes to his ankle, Dr. Derner's after-the-fact diagnosis is conclusory and unsupported by the record. In addition, the court notes that Dr. Greenwood treated Boden for a year after he left Dr. Bonk's care and Dr. Greenwood did not suspect or diagnose Boden with a neuromuscular problem. Therefore, the evidence in the record does not support Dr. Derner's conclusion that the surgery needed to address neuromuscular changes.

Dr. Derner also opined that the SPBLAS was ineffective because when Boden's cast was removed after the surgery, his foot went "right back into inversion" which was indicative that "the muscles were bringing the foot in to begin with and these weren't working at all. . . . I believe [Boden] couldn't [bring his foot in] because of his neuromuscular imbalance [due to a] problem with his evertors." Id. at 122-23. Again, nothing in the record supports Dr. Derner's conclusion that Boden had a neuromuscular imbalance.

Dr. Derner opined that had the tibial tendon transfer been performed instead of the the SPBLAS procedure or as late as December 2014, Boden's pain and ankle issues would have been corrected and he would have avoided the amputation. Derner Trial Test., ECF No. 137 at 137. However, this argument is speculative and conclusory. Even if Dr. Bonk had

chosen the tibial transfer surgery rather than the SPBLAS procedure, Boden provided no evidence that the outcome would have been different. While Dr. Derner opined as to this outcome, his opinion is based on his belief that Boden suffered from a neuromuscular issue, which, as discussed above, is not supported by the record.

Dr. Steinberg testified that a tibial tendon transfer would be a viable surgery for a patient diagnosed with footdrop, but that Boden did not have footdrop. Steinberg Trial Test, ECF No. 139 at 175-77. Dr. Steinberg clarified his opinion, articulating that a tibial tendon transfer is not done exclusively for a patient diagnosed with footdrop.

> [THE COURT]: If the posterior tibial transfer is only indicated in the cases of footdrop, why is Dr. Bonk talking to Mr. Boden about it on June the 10th?
>
> [DR. STEINBERG]: It comes down to surgeon opinion, and, as we talked about earlier, there's probably a hundred different tendon transfers you can do in the foot and ankle. And the posterior tibial tendon transfer is a[n] aggressive tendon transfer that takes the tendon all the way from the back to the front that has a lot of potential complications because we are going right between the two bones of the leg. It has to be done very carefully so you don't damage deep neurovascular structures. A lot more potential for risk and complication from that procedure. Could you get some benefit to the outside of that ankle indirectly? Maybe. You could make an argument for that procedure if there was no footdrop. To just do a posterior tibial transfer for lateral ankle stabilization would be highly unusual. Is it possible? Sure. But I wouldn't do it, and I think the way to repair this is to go after a procedure that repairs the ligaments. The posterior tibial tendon transfer does nothing to address the ligament instability. It just tries to swing the foot back around.

Id. at 178.

Dr. Steinberg also testified that there were several indicators that SPBLAS was a viable surgical option, including chronic ankle instability (whether functional or mechanical),

ligament laxity, and severe ankle deformity. Steinberg Trial Test., ECF No. 139 at 146-147, 152-54. Here, Boden had all three SPBLAS indicators. It is undisputed that Boden had a severe ankle deformity. In addition, at least two Salem VAMC doctors besides Dr. Bonk diagnosed Boden with chronic ankle instability. Progress Notes, ECF No. 80 at 56, 77. Boden also showed signs of ligament laxity, including reports of frequent falls, x-rays supporting a deformity consistent with ligament laxity; tenderness and pain in lateral ligaments, and increased range of motion on his inversion. Steinberg Trial Test., ECF No. 139 at 146, 153-54, 159. Dr. Steinberg further testified that the fact that Boden had a negative drawer test did not negate a finding of ligament laxity, because that test typically is positive only if there are severe ruptures or multiple damaged ligaments. Id. at 160.

In sum, the court can find no evidence supporting Dr. Derner's conclusion that Boden suffered from a neuromuscular condition that made the decision to do the SPBLAS procedure fall outside the standard of care. To the contrary, the record shows that Dr. Bonk's decision to perform the SPBLAS was supported by Boden's medical history, prior testing, and the clinical assessment. Therefore, the court finds that Boden has not met his burden of proof of showing by a preponderance of the evidence that Dr. Bonk's choice to perform the SPBLAS surgery fell below the standard of care.

C. Complex Regional Pain Syndrome

Boden argues that Dr. Bonk was negligent for not determining whether Boden suffered from CRPS and not sending him to a pain management clinic to address CRPS. Dr. Derner testified CRPS is characterized by pain out of proportion, swelling, a change in temperature, and contracture of the extremity. Derner Trial Test., ECF No. 137 at 127. It can be brought

on by an injury or surgery. Id. at 128. Dr. Derner testified that when Boden complained of pain after the hematoma surgery that was characterized as "pain out of proportion," it indicated that there was a neurologically mediated cause. Id. at 129-30. The reports of "pain out of proportion" and edema indicated that a reasonably prudent surgeon should suspect that Boden had CRPS. Id. at 130. Dr. Derner opined that in order to perform under the reasonable standard of care, Dr. Bonk should have ordered that a sympathetic block test be done to rule out CRPS and should have referred him to a pain specialist. Id. at 131. In addition, the standard of care required Dr. Bonk to bring Boden's pain under control before proceeding with the ankle fusion surgery. Id. at 132-33.

As discussed above in the findings of fact, the court determined that Boden did not meet his burden of proving that he suffered from CRPS, based primarily on Dr. Bonk's post-surgical exam findings of mild edema and redness and on Dr. Greenwood's post-surgical exam findings, which showed no indication of CRPS. Nor did Dr. Greenwood ever note that she suspected Boden had CRPS. Dr. Shearer, who examined but did not treat Boden, suspected that there was a high probability that he would be diagnosed with that syndrome. However, in the absence of a subsequent diagnosis of CRPS, Boden cannot show that Dr. Bonk was negligent for failing to order further testing or refer Boden to a pain management clinic. Because Boden did not meet his burden of proof on this issue, the court concludes that Dr. Bonk did not perform outside the reasonable standard of care by not further investigating whether Boden had CRPS or referring him to a pain management clinic.

D. Decision to Perform First Ankle Fusion Surgery

Dr. Derner testified that Dr. Bonk's decision to perform the first ankle fusion surgery breached the standard of care because "there was no indication that was given or evaluated or determined why [Boden] had an ankle arthrodesis or an ankle fusion." Derner Trial Test., ECF No. 137 at 134. Specifically, he testified that

> [t]he indication for an ankle arthrodesis typically and mostly is severe arthrosis, which means there is absence of cartilage, stiffness to the joint, spur formation, severe spur formation, are the classic findings . . . [a]nd dislocation of the ankle as well.

Id. 135. Medical literature supports Dr. Derner's testimony. See ECF No. 88-33 ("The principal indication for ankle arthrodesis is persistent ankle-joint pain and stiffness that is functionally disabling to the patient and is not alleviated by nonoperative treatment methods."). Dr. Derner avers that Boden did not have any bony structure dysfunction. Derner Trial Test., ECF No. 137 at 135. There is no dispute regarding Dr. Derner's and the medical literature's assertion concerning the need for ankle fusion surgery where severe ankle arthrodesis is present. Rather than an ankle fusion, Dr. Derner suggests that a tibial tendon transfer should have been performed. Derner Trial Test., ECF No. 137 at 136-37.

However, Dr. Bonk counters that the presence of a bony structure deformity is not the only indication that an ankle fusion surgery may be appropriate. Dr. Bonk testified that Boden had a mild osteochondral defect although that was not the reason he performed the ankle fusion surgery. Rather, he performed the fusion surgery to "take [Boden] out of contracture." Bonk Trial Test., ECF No. 139 at 101. Dr. Bonk agreed that there was nothing "wrong" with Boden's ankle or tibia and that the only thing "wrong" with his heel bone was that it was

grossly inverted. He repeated that he opted to perform the ankle fusion surgery to correct the contracture, rather than to correct any pathology in a bone. Id. at 102. Dr. Bonk further testified that although a tibial tendon transfer surgery was an option, he did not ultimately recommend the tibial tendon transfer to Boden because the first soft tissue procedure had failed and the fusion seemed to be a more definitive way of relieving his deformity. Id. at 35, 103. He wanted to take Boden's foot out of the varus position and put it into the rectus position. Id. at 35. Boden had experienced pain, discomfort, and deformity for twenty years and was at risk for complications from his diabetes. Dr. Bonk believed the fusion surgery offered the best chance for him to have a straight foot without deformity. Id. at 44.

Dr. Steinberg testified that the ankle fusion surgery was the next appropriate step because the soft tissue stabilization procedure, i.e., the SPBLAS procedure, had failed. It was important to correct the deformity because the longer it persisted, the more damage was being done to the ankle. Signs of arthritis were present and Boden's diabetes was a compounding factor that made correcting the deformity a priority. Steinberg Trial Test., ECF No. 139 at 214. Dr. Bonk could have tried another tendon transfer, but because the first tendon surgery was unsuccessful, it was appropriate to advance to the level of the ankle fusion surgery. Id.

The issue of whether Dr. Bonk's choice to perform ankle fusion surgery fell outside the standard of care is close. Dr. Derner opines that ankle fusion surgery is called for only when there is a defect in the bony structure of the ankle and there was no such defect in this case. However, Dr. Steinberg testified that because the first soft tissue surgery had failed, it was within the standard of care to proceed to the next level of ankle fusion surgery. And Dr. Bonk testified that he believed ankle fusion surgery would offer Boden definitive relief. Boden

does not argue otherwise, i.e., he does not argue that if the ankle fusion surgery had been successful, that he nevertheless would have needed to have his leg amputated. Rather, Boden's argument is that Dr. Bonk should have chosen to do a tendon transfer because it would have been successful and would have corrected Boden's foot and ankle problems. But for the court to find that Boden is correct, the court would have to speculate on the outcome of a surgery that never occurred.

In addition, Boden's argument misstates the issue before the court, which is not whether a different type of surgery would have been successful, but whether Dr. Bonk's decision to perform the ankle fusion surgery was in keeping with that "degree of skill and diligence practiced by a reasonably prudent practitioner in the field of practice or specialty in this Commonwealth." Va. Code § 8.01-581.20. The court finds that based on the record, Boden has not met his burden of proof of showing that the decision to perform the ankle fusion surgery fell outside the standard of care. Given the failed SPBLAS procedure, Dr. Bonk had to choose how to proceed. Based on Boden's long history of ankle instability, pain, and severe deformity, and the prior failed soft-tissue surgery, the court finds that Dr. Bonk's decision to perform the ankle fusion surgery was within the standard of care. Dr. Bonk's decision was consistent with a reasonably prudent podiatric surgeon making the best decision he could under difficult circumstances. Therefore, the court concludes that Dr. Bonk was not negligent in his choice to proceed with the ankle fusion surgery.

E. Causation

In addition to the foregoing, the court concludes that even if Dr. Bonk were negligent in his choice of surgical procedures, Boden has not met his burden of proof of showing that

Dr. Bonk's choices caused the amputation of Boden's lower right leg. "In Virginia medical malpractice actions, 'a plaintiff must establish not only that a defendant violated the applicable standard of care, and was therefore negligent, the plaintiff must also sustain the burden of showing that the negligent acts constituted a proximate cause of the injury or death.'" Parker v. United States, 475 F.Supp.2d 594, 598 (E.D. Va. 2007) (quoting Bryan, 254 Va. at 34, 486 S.E.2d at 539-40).

> The proximate cause of an event is that act or omission which, in natural and continuous sequence, unbroken by an efficient intervening cause, produces the event, and without which that event would not have occurred." Beverly Enterprises–Virginia v. Nichols, 247 Va. 264, 269, 441 S.E.2d 1, 4 (1994) (quoting Coleman v. Blankenship Oil Corp., 221 Va. 124, 131, 267 S.E.2d 143, 147 (1980)). There may be more than one proximate cause of an event. Panousos v. Allen, 245 Va. 60, 65, 425 S.E.2d 496, 499 (1993). A subsequent proximate cause may or may not relieve a defendant of liability for his negligence. "In order to relieve a defendant of liability for his negligent act, the negligence intervening between the defendant's negligent act and the injury must so entirely supersede the operation of the defendant's negligence that it alone, without any contributing negligence by the defendant in the slightest degree, causes the injury." Atkinson v. Scheer, 256 Va. 448, 454, 508 S.E.2d 68, 71 (1998) (quoting Jenkins v. Payne, 251 Va. 122, 128–29, 465 S.E.2d 795, 799 (1996)).

Williams v. Le, 276 Va. 161, 167, 662 S.E.2d 73, 77 (2008). "[A]n intervening cause does not operate to exempt a defendant from liability if that cause is put into operation by the defendant's wrongful act or omission." Jefferson Hosp., Inc. v. Van Lear, 186 Va. 74, 81, 41 S.E.2d 441, 444 (1947).

In this case, Dr. Derner testified that prior to July 2014, Boden's ankle was functional, in that he could bear weight on it although he was in pain and walked with a limp. Derner Trial Test., ECF No. 137 at 153. But from the time Dr. Bonk performed the first surgery on Boden in July 2014, through the time Boden's lower right leg was amputated in 2017, his ankle

was never functional and he was never free of pain. Id. at 153-54. Dr. Derner further testified that "a nonfunctional ankle and one that is painful is … an indication for an option for amputation" and that Boden was an appropriate candidate for amputation. Id. at 154. Therefore, Boden argues that Dr. Bonk's deviation from the standard of care in the choice of surgeries was the proximate cause of his amputation. However, Dr. Derner also testified that ankle injuries can sometimes require multiple surgeries. He agreed that when there is a nonunion in an ankle fusion surgery, there is sometimes a second and even third surgery performed in an attempt to achieve fusion. Id. at 162-163.

Given that Boden has abandoned his claim that Dr. Bonk's performance of the ankle fusion procedure breached the standard of care, see ECF No. 152 at 190-91, the court finds that Boden cannot show that Dr. Bonk's choice of surgery was the proximate cause of the amputation. Simply put, had the ankle fusion been successful, Boden would not have lost his lower leg to amputation. Nor can Boden show that the choice of the first SPBLAS surgery led to the amputation. While the surgery failed, there were at least two possible intervening causes of amputation between the choice to do the SPBLAS surgery and the amputation – the failure of the first and second fusion surgeries. Without even addressing whether Boden contributed to the failure of those surgeries, and ultimately the amputation, by failing to remain non-weight-bearing, the court finds that Boden has failed to meet his burden of proof on causation because he has failed to show by a preponderance of the evidence that Dr. Bonk's surgical choices "in natural and continuous sequence, unbroken by an efficient intervening cause" resulted in the amputation, and without which the amputation would not have occurred. Beverly Enterprises–Virginia, 247 Va. 264 at 269, 441 S.E.2d at 4. Accordingly, even if Boden

had established that Dr. Bonk's choice of treatment and procedures fell below the standard of care, he cannot show that any of Dr. Bonk's choices caused the amputation.

V. Conclusion

Based on the findings of fact and conclusions of law set forth above, the court finds that Dr. Bonk was not negligent in his treatment of Boden. Therefore, the court will enter judgment in favor of the United States of America.

An appropriate order will be entered.

Entered: March 21, 2022

Michael F. Urbanski
Chief United States District Judge